CONFIDENTIAL

CLASSIFICATION CONFIDENTIAL

CENTRAL INTELLIGENCE AGENCY

INFORMATION FROM
FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT

CD NO.

50X1-HUM

COUNTRY USSR

SUBJECT Economic; Technological - Machine tools

HOW PUBLISHED Monthly periodical

WHERE PUBLISHED Moscow

DATE PUBLISHED Sep 1947

LANGUAGE Russian

DATE OF INFORMATION 1947

DATE DIST. 7 Aug 1950

NO. OF PAGES 3

SUPPLEMENT TO REPORT NO.

THIS IS UNEVALUATED INFORMATION

SOURCE Stanki i instrument, No 9, 1947.

THE SOVIET TOOL-GAGE INDUSTRY IN THE CURRENT FIVE-YEAR PLAN

N. S. Degtyarenko

The Ministry of Machine-Tool Building has designated the following tasks to be completed by tool plants during the current Five-Year Plan in the manufacture of measuring tools and instruments:

1. To increase the number of types of standardized measuring tools.

2. To modernize standard designs of measuring tools in order to increase inspection capacity and wear resistance and assure technical efficiency in construction.

3. To broaden the field for the use of indicators with various attachments, which would increase accuracy and inspection capacity in series and mass production.

4. To increase the total volume of production and the number of types of precision measuring tools and instruments by the use of electric, pneumatic and other measuring systems together with the application of mechanical and lever principles.

5. To broaden the production of automatic checking and sorting machines as well as instruments for automatic checking of work pieces during machining so that high-production inspection methods can be applied in mass conveyer production.

6. To increase the number of types of gear-measuring devices.

7. To insure the output of a large number of types of measuring instruments for checking cutting tools.

8. To perfect the production of certain types of special measuring tools for checking and measuring individual parts, either mass or specially produced, which have particular importance in national economy.

CONFIDENTIAL

CLASSIFICATION CONFIDENTIAL

STATE	X	NAVY	X	NSRB		DISTRIBUTION						
ARMY	X	AIR	X	FBI								

50X1-HUM

During 1946 - 1947, 800 more types and sizes of measuring tools were produced at the Kalibr Plant than in 1945. Included among these tools were thread plug and ring gages, plug gages, adjustable and plain external gages, combination squares, rules, plates, internal calipers, micrometers, etc.

The number of types of height gages, micrometers for measuring plates, and soft and threaded materials has been increased at the Krasnyy instrumental'shchik Plant.

The number of types of thread gages, wires for measuring threads, micrometers of various sizes, etc. has been increased at the Chelyabinsk Tool Plant.

Standard measuring tools must be modernized in the following ways:

a. Introduction of measuring tool designs which will increase efficiency and accuracy of measuring.

b. Introduction of surface finishing of working parts of measuring tools which would increase their wear resistance.

c. Introduction of plastic materials, pressure casting, and die stamping to increase the technical efficiency of construction.

d. Making types and sizes of measuring tools more precise.

To carry out the above measures, new standards and norms must be developed by the Scientific Research Bureau of Interchangeability (NIBV).

During the current Five-Year Plan, smooth gages should be modernized by more extensive use of depth and height gages (kalibry s napravleniyem) and by the use of spring compensators for small plug gages to protect them from breakage.

To increase productivity in checking threads, the output of roller thread snap gages should be increased and the production of thread ring gages decreased. Plant practice has shown that the use of these snap gages increased inspection capacity up to seven times. In 1947, the Kalibr Plant produced a series of roller thread snap gages.

In connection with modernizing measuring-tool designs, a great deal of work must be done by tool plants and the NIBV on tools having large dimensions to make them lighter in weight.

To increase wear resistance and lengthen the life of measuring tools, working surfaces must be chrome plated on a large number of tools such as master forms, squares, and end gages.

For some types of products, such as micrometers, sliding gages, and external gages, the measuring surfaces must be made with hard alloy to prolong their length of service.

Extensive use must be made of plastic materials for holders for various types of gages and measuring instruments and for the boxes holding these tools.

For internal measuring indicators, external gages, and minimeters [sic], the use of light-alloy parts made by pressure casting and die stamping will be more extensive.

In 1946, the production of dial indicators fell short of meeting the needs of the machine-building industry. The number of types as well as the gross production of indicators must be considerably increased during the current Five-Year Plan. Production of standard and special parts such as various types of stands, handles, and levers for dial indicators must also be increased.

In 1946 - 1947, series production on a large scale was begun at the Kalibr Plant for the manufacture of indicating internal gages graduated at 0.01 millimeter for measuring 6- to 400-millimeter diameter holes, with a total of seven groups having measuring ranges of 6-10, 18-35 millimeters, etc. The manufacture of internal gages with ranges from 400 to 1,000 millimeters is planned.

In 1947, the manufacture of indicators for measuring to an accuracy of 0.001 millimeters was started at the Chelyabinsk Tool Plant

In 1947, the first group of lever indicators with attachments, graduated at 0.01 millimeter for checking holes was produced at the Kalibr Plant. At present, the production of lever indicators for measuring to an accuracy of 0.002 millimeter is being perfected.

The Krasnyy instrumental'shchik Plant has started producing indicating depth gages graduated at 0.01 millimeter with 0-13 millimeter range. The output of depth gage indicators having various ranges is planned. Production is being organized for 1947 for the manufacture of small dial indicators graduated at 0.01 millimeter with a 28-millimeter-diameter dial.

The Leningrad Tool Plant and the Krasnyy instrumental'shchik Plant are producing parts for indicators, levers for internal and end (tortsevye) measuring and various types of stands for indicators with small and large tables.

Series production has started at the Leningrad Tool Plant for the manufacture of thickness indicators for measuring thickness of sheet material. Since 1946, the plant has been producing indicating external gages with 0-50 millimeter range and since 1947, with 50-100 millimeter range and higher -- up to 1,000 millimeters. Indicating external gages are considerably more efficient than conventional micrometers.

The Leningrad Tool Plant will also manufacture multiple inspection indicators during the current Five-Year Plan.

- E N D -